

Listing of Claims:

1. (Previously Presented) A radar oscillator comprising:

an oscillating unit having amplifier means, a feedback circuit which applies a positive feedback from an output side to an input side of the amplifier means and a resonator which

5 resonates at the predetermined frequency, the feedback circuit and the resonator cooperating with the amplifier means to enable oscillation at a predetermined frequency, the resonator being connected to an input section or output section of the amplifier means, and the oscillating unit outputting and stopping an

10 oscillation signal having the predetermined frequency from the output side of the amplifier means in an oscillating state and an oscillation stop state, respectively; and

switching means connected to the oscillating unit, the switching means including an electronic switch which receives a
15 pulse signal indicating a transmission timing of a radar wave and changes an operating state of the oscillating unit to the oscillating state at a first level of the pulse signal and the oscillation stop state at a second level of the pulse signal in order to intermit an output of the oscillation signal in response
20 to a level of the pulse signal;

wherein the amplifier means includes an amplifier provided in an output stage of the oscillating unit;

wherein the oscillating unit has a power supply line for the amplifier means in the oscillating unit; and

25 wherein the switching means includes a first switch which opens or closes the power supply line for the amplifier means in the oscillating unit based on the pulse signal indicating the transmission timing of the radar wave, thereby changing the operating state of the oscillating unit to the oscillating state
30 or the oscillation stop state.

2. (Previously Presented) A radar oscillator according to claim 1, wherein the oscillating unit has a high frequency earth line, and the switching means includes a second switch which opens or closes between at least one of the input section and the
5 output section of the amplifier means in the oscillating unit and the high frequency earth line of the oscillating unit based on the pulse signal indicating the transmission timing of the radar wave, thereby changing the operating state of the oscillating unit to the oscillating state or the oscillation stop state.

3. (Withdrawn) A radar oscillator according to claim 1, wherein:

the oscillating unit has a plurality of amplifiers cascade-connected to each other as the amplifier means;

5 the feedback circuit is arranged to apply a positive
feedback to the input side of an amplifier at a first stage from
the output side of an amplifier at a final stage of the plurality
of amplifiers, and the resonator is connected to a
cascade-connecting section of the plurality of amplifiers; and
10 the oscillating unit outputs and stops the oscillation
signal having the predetermined frequency determined by the
resonator from the output side of the amplifier at the final
stage of the plurality of amplifiers in the oscillating state and
the oscillation stop state.

Claims 4-8 (Canceled).

9. (Previously Presented) A radar oscillator comprising:
an oscillating unit having amplifier means and at least one
of a feedback circuit which applies a positive feedback from an
output side to an input side of the amplifier means and a
5 resonator which resonates at the predetermined frequency, the at
least one of the feedback circuit and the resonator cooperating
with the amplifier means to enable oscillation at a predetermined
frequency, the resonator being connected to an input section or
output section of the amplifier means, and the oscillating unit
10 outputting and stopping an oscillation signal having the
predetermined frequency from the output side of the amplifier

means in an oscillating state and an oscillation stop state,
respectively; and

switching means connected to the oscillating unit, the
15 switching means including an electronic switch which receives a
pulse signal indicating a transmission timing of a radar wave and
changes an operating state of the oscillating unit to the
oscillating state and the oscillation stop state at first and
second levels of the pulse signal in order to intermit an output
20 of the oscillation signal in response to a level of the pulse
signal;

wherein the oscillating unit selectively has a high
frequency earth line, a power supply line for the amplifier means
in the oscillating unit, and an element to set the oscillating
25 unit outside of a normal operation range, and

wherein the switching means includes a plurality of switches
obtained by selectively combining:

a first switch which opens or closes between at least
one of the input section and the output section of the amplifier
30 means in the oscillating unit and the high frequency earth line
based on the pulse signal indicating the transmission timing of
the radar wave, thereby changing the operating state of the
oscillating unit to the oscillating state or the oscillation stop
state;

35 a second switch which connects or disconnects the
element to set the oscillating unit outside of the normal
operation range to and from the oscillating unit based on the
pulse signal indicating the transmission timing of the radar
wave, thereby changing the operating state of the oscillating
40 unit to the oscillating state or the oscillation stop state; and

 a third switch which opens or closes the power supply
line for the amplifier means in the oscillating unit based on the
pulse signal indicating the transmission timing of the radar
wave, thereby changing the operating state of the oscillating
45 unit to the oscillating state or the oscillation stop state.

Claim 10 (Canceled).

11. (Currently Amended) A radar oscillator ~~according to~~
~~claim 1,~~ comprising:

an oscillating unit having amplifier means, a feedback
circuit which applies a positive feedback from an output side to
5 an input side of the amplifier means and a resonator which
resonates at the predetermined frequency, the feedback circuit
and the resonator cooperating with the amplifier means to enable
oscillation at a predetermined frequency, the resonator being
connected to an input section or output section of the amplifier
10 means, and the oscillating unit outputting and stopping an

oscillation signal having the predetermined frequency from the output side of the amplifier means in an oscillating state and an oscillation stop state, respectively; and

15 switching means connected to the oscillating unit, the
switching means including an electronic switch which receives a
pulse signal indicating a transmission timing of a radar wave and
changes an operating state of the oscillating unit to the
oscillating state at a first level of the pulse signal and the
oscillation stop state at a second level of the pulse signal in
20 order to intermit an output of the oscillation signal in response
to a level of the pulse signal;

wherein the amplifier means includes an amplifier provided
in an output stage of the oscillating unit;

25 wherein the oscillating unit has a power supply line for the
amplifier means in the oscillating unit;

30 wherein the switching means includes a first switch which
opens or closes the power supply line for the amplifier means in
the oscillating unit based on the pulse signal indicating the
transmission timing of the radar wave, thereby changing the
operating state of the oscillating unit to the oscillating state
or the oscillation stop state;

wherein the oscillating unit has an element to set a
resonance frequency of the oscillator in the oscillating unit to
a frequency which prevents a positive feedback from the output

35 side to the input side of the amplifier means, thereby setting
the resonance frequency outside of a normal operation range in
the oscillating unit, and

wherein the switching means includes a third switch which
connects or disconnects the element to set the resonance
40 frequency of the resonator in the oscillating unit outside of the
normal operation range to and from the oscillating unit based on
the pulse signal indicating the transmission timing of the radar
wave, thereby changing the operating state of the oscillating
unit to the oscillating state or the oscillation stop state.

12. (Previously Presented) A radar oscillator according to
claim 2,

wherein the oscillating unit has an element to set a
resonance frequency of the oscillator in the oscillating unit to
5 a frequency which prevents a positive feedback from the output
side to the input side of the amplifier means, thereby setting
the resonance frequency outside of a normal operation range in
the oscillating unit; and

the switching means includes a third switch which connects
10 or disconnects the element to set the resonance frequency of the
resonator in the oscillating unit outside of the normal operation
range to and from the oscillating unit based on the pulse signal
indicating the transmission timing of the radar wave, thereby

changing the operating state of the oscillating unit to the
15 oscillating state or the oscillation stop state.

13. (Previously Presented) A radar oscillator comprising:
an oscillating unit having amplifier means, a feedback
circuit which applies a positive feedback from an output side to
an input side of the amplifier means and a resonator which
5 resonates at the predetermined frequency, the feedback circuit
and the resonator cooperating with the amplifier means to enable
oscillation at a predetermined frequency, the resonator being
connected to an input section or output section of the amplifier
means, and the oscillating unit outputting and stopping an
10 oscillation signal having the predetermined frequency from the
output side of the amplifier means in an oscillating state and an
oscillation stop state, respectively; and

switching means connected to the oscillating unit, the
switching means including an electronic switch which, receives a
15 pulse signal indicating a transmission timing of a radar wave,
and changes an operating state of the oscillating unit to the
oscillating state and the oscillation stop state at first and
second levels of the pulse signal in order to intermit an output
of the oscillation signal in response to a level of the pulse
20 signal;

wherein the resonator is connected to the input section or output section of the amplifier means, and the oscillating unit outputs and stops the oscillation signal having the predetermined frequency determined by the resonator from the output side of the amplifier means in the oscillating state and the oscillation stop state, respectively;

wherein the oscillating unit selectively has a high frequency earth line, a power supply line for the amplifier means in the oscillating unit, and an element to set a resonance frequency of the resonator in the oscillating unit outside of a normal operation range in the oscillating unit, and

wherein the switching means includes a plurality of switches obtained by selectively combining:

a first switch which opens or closes between at least one of the input section and the output section of the amplifier means in the oscillating unit and the high frequency earth line based on the pulse signal indicating the transmission timing of the radar wave, thereby changing the operating state of the oscillating unit to the oscillating state or the oscillation stop state;

a second switch which connects or disconnects the element to set the resonance frequency of the resonator in the oscillating unit outside of the normal operation range to and from the oscillating unit based on the pulse signal indicating

45 the transmission timing of the radar wave, thereby changing the
operating state of the oscillating unit to the oscillating state
or the oscillation stop state; and

a third switch which opens or closes the power supply
line for the amplifier means in the oscillating unit based on the
50 pulse signal indicating the transmission timing of the radar
wave, thereby changing the operating state of the oscillating
unit to the oscillating state or the oscillation stop state.

14. (Withdrawn) A radar oscillator according to claim 3,
wherein the oscillating unit has a high frequency earth line, and
the first switch is arranged to open or close between at
least one of the input section of the amplifier at a first stage
5 of the plurality of amplifiers and the output section of the
amplifier at a final stage of the plurality of amplifiers and the
high frequency earth line of the oscillating unit based on the
pulse signal indicating the transmission timing of the radar
wave, thereby changing the operating state of the oscillating
10 unit to the oscillating state or the oscillation stop state.

15. (Withdrawn) A radar oscillator according to claim 3,
wherein the oscillating unit has an element to set the
oscillating unit to a frequency which prevents a positive
feedback from the output side to the input side of the amplifier

5 means, thereby setting the resonance frequency outside of a
normal operation range, and

the switching means includes a second switch which connects
or disconnects the element to set the oscillating unit outside of
the normal operation range to and from the oscillating unit based
10 on the pulse signal indicating the transmission timing of the
radar wave, thereby changing the operating state of the
oscillating unit to the oscillating state or the oscillation stop
state.

16. (Withdrawn) A radar oscillator according to claim 3,
wherein the oscillating unit has a power supply line for said
plurality of amplifiers serving as the amplifier means in the
oscillating unit, and

5 the switching means includes a third switch which opens or
closes the power supply line for at least one amplifier of the
plurality of amplifiers in the oscillating unit based on the
pulse signal indicating the transmission timing of the radar
wave, thereby changing the operating state of the oscillating
10 unit to the oscillating state or the oscillation stop state.

17. (Withdrawn) A radar oscillator according to claim 3,
wherein the oscillating unit selectively has a high frequency
earth line, a power supply line for said plurality of amplifiers

serving as the amplifier means in the oscillating unit, and an
5 element to set the oscillating unit outside of a normal operation
range, and

the switching means includes a plurality of switches
obtained by selectively combining:

the first switch which opens or closes between at least
10 one of the input section of the amplifier at the most frontal
stage of said plurality of amplifiers serving as the amplifier
means in the oscillating unit and the output section of the
amplifier at the final stage of said plurality of amplifiers and
the high frequency earth line of the oscillating unit based on
15 the pulse signal indicating the transmission timing of the radar
wave, thereby changing the operating state of the oscillating
unit to the oscillating state or the oscillation stop state;

a second switch which connects or disconnects the
element to set the oscillating unit outside of the normal
20 operation range to and from the oscillating unit based on the
pulse signal indicating the transmission timing of the radar
wave, thereby changing the operating state of the oscillating
unit to the oscillating state or the oscillation stop state; and

a third switch which opens or closes the power supply
25 line for at least one amplifier of the plurality of amplifiers in
the oscillating unit based on the pulse signal indicating the
transmission timing of the radar wave, thereby changing the

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operating state of the oscillating unit to the oscillating state
or the oscillation stop state.

Claims 18-25 (Canceled).